

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

Applicant: Roberto Teran, Jr., et al.  
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Title: CONTROLLED VEHICLE SHUTDOWN SYSTEM  
Attorney Docket No: 81044283 (34160-773)  
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Commissioner for Patents  
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Alexandria, VA 22313-1450

August 17, 2007

**APPEAL BRIEF**

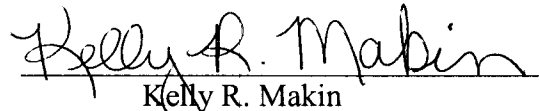
This brief is submitted in support of the Notice of Appeal of the Final Rejection filed  
May 18, 2007.

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Kelly R. Makin

**TABLE OF CONTENTS**

	<u>Page</u>
I. <b><u>Real Party in Interest</u></b> .....	3
II. <b><u>Related Appeals and Interferences</u></b> .....	3
III. <b><u>Status of Claims</u></b> .....	3
IV. <b><u>Status of Amendments</u></b> .....	3
V. <b><u>Summary of Claimed Subject Matter</u></b> .....	3
VI. <b><u>Grounds of Rejection to be Reviewed on Appeal</u></b> .....	4
VII. <b><u>Argument</u></b> .....	4
VIII. <b><u>Claims Appendix</u></b> .....	7
IX. <b><u>Evidence Appendix</u></b> .....	11
X. <b><u>Related Proceedings Appendix</u></b> .....	12
XI. <b><u>Conclusion</u></b> .....	6

**I. Real Party in Interest**

The real party in interest in this matter is Ford Global Technologies, LLC, which is a wholly owned subsidiary of Ford Motor Company, both of Dearborn, Michigan (hereinafter “Ford”).

**II. Related Appeals and Interferences**

There are no other known appeals or interferences which will directly affect or be directly affected by or have bearing on the Board’s decision in the pending appeal.

**III. Status of Claims**

Claims 1-3, 5, 7-8 and 10-14 are pending in the application. Claims 4, 6, 9 and 15-22 have been cancelled. Claims 1-3, 5, 7-8 and 10-14 stand rejected in the Final Office Action. The rejection of each of Claims 1-3, 5, 7-8 and 10-14 is being appealed.

**IV. Status of Amendments**

No Amendments were filed after the final rejection.

**V. Summary of Claimed Subject Matter**

Independent Claim 1

As set forth in independent Claim 1, with reference to Appellants' Specification at Paragraph 21, at Lines 1-13; as well as Paragraph 41, Lines 1-8; Paragraph 44, Lines 1-9; Paragraph 46, Lines 1-7; and Figures 1 and 2, vehicle shutdown system (10) for a non-hybrid vehicle (12), having an internal combustion engine (34), includes an ignition-enabling device (14), having at least an on state and an off state, with device (14) enabling ignition of the internal combustion engine (34). A switch coupled to the ignition-enabling device (14) and to a fuel system (38-40). A non-hybrid internal combustion engine controller (18) has a number of functions and is coupled to ignition-enabling device (14), with engine controller (18) at least

temporarily maintaining operation of at least a portion of controller (18)'s functions when ignition-enabling device (14) is switched to an off state, with the controller functions including non-idle air valve related functions, and with engine controller (18) also disabling fuel system (38-40) when ignition-enabling device (14) is switched to the off state.

**Independent Claim 14**

Independent Claim 14 sets forth a vehicle shutdown system having an ignition-enabling device, 14, as described previously and a non-idle air valve throttle control device, 36, with a switch coupled to device 36 and the fuel supply system 38-40, and a controller, 18, coupled to the ignition-enabling device and electronically controlling throttle control device 36. Claim 14 also includes a description of controller 18 adjusting throttle-control device 36 to be at a position that is more air flow restrictive without closing off the flow of air, than the restriction imposed by the throttle control device when it is in a default position when ignition-enabling device 14 is switched to the off state. This is set forth in Paragraph 47, Lines 1-10.

**VI. Grounds of Rejection to be Reviewed on Appeal**

Claims 1-3, 10, 13 and 14 are unpatentable under 35 U.S.C. §103(a), over Slopsema in view of Malik.

**VII. Argument**

**Claims 1 and 14 are allowable over Slopsema in view of Malik.**

As set forth above, Applicant's claimed invention relates to a system for shutting down the engine of a non-hybrid vehicle. An ignition-enabling device having a switch coupled to a fuel supply system functions to disable the fuel supply system when the ignition-enabling device is switched to an off state. However, the engine's controller, at least temporarily, maintains operation of a portion of the controller functions when the ignition-enabling device is switched to the off state. These functions are non-idle air valve related functions. In other words, they are

functions which do not deal with control of airflow when the engine is passing through idle speed during a shutdown.

Slopsema, teaches away from Appellants' claimed invention because Slopsema teaches controlling of an engine's air throttle to positively restrict, if not utterly impede, the idle air flow into an engine when it is shut down. Hence, at Column 2 in Paragraph 14, Slopsema recites that:

“Throttle (18) is preferably adjusted during the period of time such that the flow rate of the intake air charge is ... even more preferably less than about 30% of the idle air flow rate and most preferably less than about 10% of the idle speed flow rate.”

Thus, it is unequivocal that Slopsema is dedicated to clamping down on airflow to effectively eliminating air flow through the engine on idle as the engine is shut down. This is what Slopsema teaches. To Slopsema, the Examiner has added Malik, which teaches the use of a switch to trigger an automatic shutdown system. This is set forth in Malik at Column 6, Lines 55-63. Appellants respectfully submit that even were there motivation to combine Malik and Slopsema, the resulting system could not function in the manner of Appellants' claimed device because the triggering of Malik's switch would merely cause the idle air flow to be cut off to the engine, to a greater or lesser extent, without maintaining operation of a portion of controller functions relating to non-idle air flow. Fairly viewed, this means that the combination of Slopsema and Malik teaches control of airflow at idle, and clearly cannot render Appellants' claims obvious.

In sum, Claims 1 and 14, as well as the claims depending from Claim 1, are allowable over the Examiner's rejection.

#### **VIII. Claims Appendix**

A copy of each of the claims involved in this appeal, namely Claims 1-14, is attached as a Claims Appendix.

**IX. Evidence Appendix**

None.

**X. Related Proceedings Appendix**

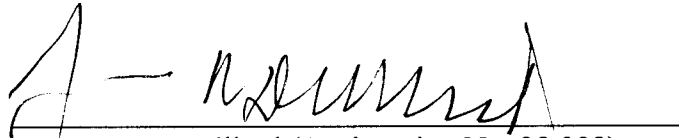
None.

**XI. Conclusion**

For the foregoing reasons, Appellant respectfully requests that the Board direct the Examiner in charge of this case to withdraw the rejection.

The Patent Office is authorized to charge any fee deficiency or refund any excess to Deposit Account No. 06-1510.

Respectfully submitted,



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**Claims Appendix**

1. **(Previously Presented)** A vehicle shutdown system for a non-hybrid vehicle having an internal combustion engine comprising:

an ignition-enabling device having at least on ON state and an OFF state, said ignition-enabling device enabling ignition of the internal combustion engine;

a switch coupled to said ignition-enabling device and a fuel supply system; and

a non-hybrid internal combustion engine controller having a plurality of functions and being coupled to said ignition-enabling device, said engine controller at least temporarily maintaining operation of at least a portion of said controller functions when said ignition-enabling device is switched to said OFF state, said controller functions comprising non-idle air valve related functions, said engine controller also disabling said fuel supply system upon said ignition-enabling device being switched to said OFF state.

2. **(Previously Presented)** A system as in claim 1 wherein said plurality of functions are selected from at least one of a camshaft position function, a crankshaft position function, a remote start function, and a drive-by-wire function.

3. **(Previously Presented)** A system as in claim 1 further comprising a single throttle-controlled device, which is incorporated and adjustable to control air intake other than at idle, said engine controller electronically controlling said single throttle-controlled device and at least temporarily preventing shutdown of electronic throttle control when said ignition-enabling device is switched to an OFF state.

4. **(Canceled)**

5. **(Original)** A system as in claim 3 further comprising a switch coupled to said engine controller, said engine controller enabling said switch when said ignition-enabling device is in said ON state and at least temporarily preventing disablement of said switch when said ignition-enabling device is in said OFF state.

6. **(Canceled)**

7. **(Previously Presented)** A system as in claim 3 further comprising a throttle actuator position sensor generating a throttle position signal, said engine controller adjusting a position of said single throttle-controlled device in response to said throttle position signal.

8. **(Original)** A system as in claim 3 wherein said ignition-enabling device is an ignition start key assembly.

9. **(Canceled)**

10. **(Previously Presented)** A system as in claim 3 wherein said engine controller adjusts a position of said single throttle-controlled device to be more air flow restrictive, without closing off the flow of air, than that of said single throttle-controlled device in a default position when said ignition-enabling device is switched to said OFF state.



11. **(Previously Presented)** A system as in claim 3 wherein said engine controller adjusts a position of said single throttle-controlled device to be equal to or between 1-2° open relative to a closed position when said ignition-enabling device is switched to said OFF state.

12. **(Original)** A system as in claim 1 further comprising a safety monitor receiving an operation status signal from said engine controller when operation of said at least a portion of said controller functions is maintained and said ignition-enabling device is switched to said OFF state.

13. **(Original)** A system as in claim 1 wherein said engine controller is at least a portion of a drive-by-wire system controller.

14. **(Previously Presented)** A vehicle shutdown system comprising:

an ignition-enabling device having at least an ON state and an OFF state;

a non-idle air valve throttle-controlled device;

a switch coupled to said ignition-enabling device and a fuel supply system; and

a controller coupled to said ignition-enabling device and electronically controlling said throttle-controlled device, said controller at least temporarily preventing shutdown of electronic throttle control when said ignition-enabling device is switched to said OFF state;

wherein said controller adjusts said throttle-controlled device to be at a position that is more air flow restrictive, without closing off the flow of air, than that of said throttle-controlled device in a default position when said ignition-enabling device is switched to said OFF state;

said engine controller disabling said fuel supply system upon said ignition-enabling device being switched to said OFF state.

15-22. **(Canceled)**

**Evidence Appendix**

None.

**Related Proceedings Appendix**

None.